

Introducing:

Intel® Centrino™ Mobile Technology

NDA Press Briefing

Intel Confidential Information

Presenter Name

Presenter Title



Public Today:

Intel® Centrino™ Mobile Technology

- New mobile brand and logo – Intel® Centrino™ Mobile Technology
- Components of Centrino™ mobile technology
 - Intel® Pentium® M Processor
 - Intel® 855 Chipset Family (integrated and discrete graphics options)
 - Intel® PRO/Wireless 2100 Network Connection (Wi-Fi compliant 802.11b & a/b*)
- Intel® Pentium® M Processor Features:
 - 77 Million Transistors
 - Std, low voltage and ultra low voltage versions of CPU to fit into all form factors
 - New Micro-architecture
 - Power optimized 400MHz processor system bus
 - Advanced Instruction Prediction
 - Second-generation Streaming SIMD Extensions for compatibility with Pentium® 4 optimized software
 - Dedicated Stack Manager
 - Micro-ops Fusion
 - 1MB power managed L2 cache
 - Voltage range .85-1.5v, <1W average power target for std., LV, ULV
 - Support for Enhanced Intel® SpeedStep® Technology w/ multiple voltage/operating points
 - Power optimized logic design with intelligent power distribution
- Intel Mobile Voltage Positioning 4
- Micro FCBGA & micro FCPGA packaging technology



* Availability of Dual Band 802.11a/b to follow Intel® Centrino™ Mobile Technology. See OEM for Details. ²

Public Today:

Intel® Centrino™ Mobile Technology - cont

- Intel® 855 Chipset Family features:
 - Support for **2GB*** of DDR 266/200 memory
 - Optional integrated graphics solution with Intel® Extreme Graphics **2** Technology
 - Intel Stable® Image Technology
 - Support for USB 2.0
 - Dynamic input/output buffer disabling for processor system bus & memory
 - Intel® 855GM
 - Optimized internal clock gating for 3D & display engines
 - Integrated low voltage differential signal (LVDS) interface
- Intel® PRO/Wireless 2100 Network Connection
 - Wi-Fi compliant single and dual band 802.11 support
 - Industry standard and extended wireless security support (LEAP*, 802.1x, WEP, TKIP – at launch, WPA, CKIP-future support)
 - Intel® PROSet software with advanced profile management, automatic WLAN switching, and ad hoc connection wizard support
 - Intel® Wireless Coexistence System support
 - **Antenna diversity***
 - **Real-time temperature calibration available with 802.11a***
 - **Power saving protocol (PSP)***
 - **Intel® intelligent scanning technology***



*Other names and brands may be claimed as the property of others

* Features not yet publicly disclosed that can now be disclosed publicly 3

Under Embargo:

Intel® Centrino™ Mobile Technology

Under Embargo

(until February 19th, 2003, 9am PST)

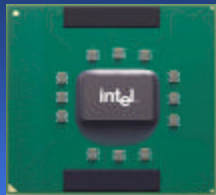
- Launch CPU frequencies:
 - Intel® Pentium® M processor standard voltage products: 1.30, 1.40, 1.50, and 1.60 GHz
 - Low Voltage Intel® Pentium® M Processor 1.10 GHz
 - Ultra Low Voltage Intel® Pentium® M Processor 900 MHz
- Product TDP (CPU and Chipset)
- CPU average power numbers



Agenda

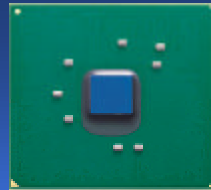
- Intel® Centrino™ Mobile Technology: Bringing the benefits to mobile PC users
- Technology features and benefits
- Positioning and roadmap
- Intel mobile initiatives
- Intel verification and validation
- The business advantage
- Consumer demand
- Summary

What is Intel® Centrino™ Mobile Technology



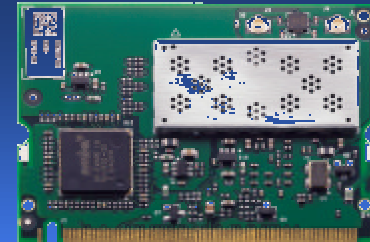
Intel® Pentium®
M Processor

+



Intel® 855 Chipset
Family

+



Intel® PRO/Wireless 2100
Network Connection

*Images not to scale

Designed, Tested, and Validated
to work together to deliver
breakthrough mobile technology...



Designing to Meet End User Needs

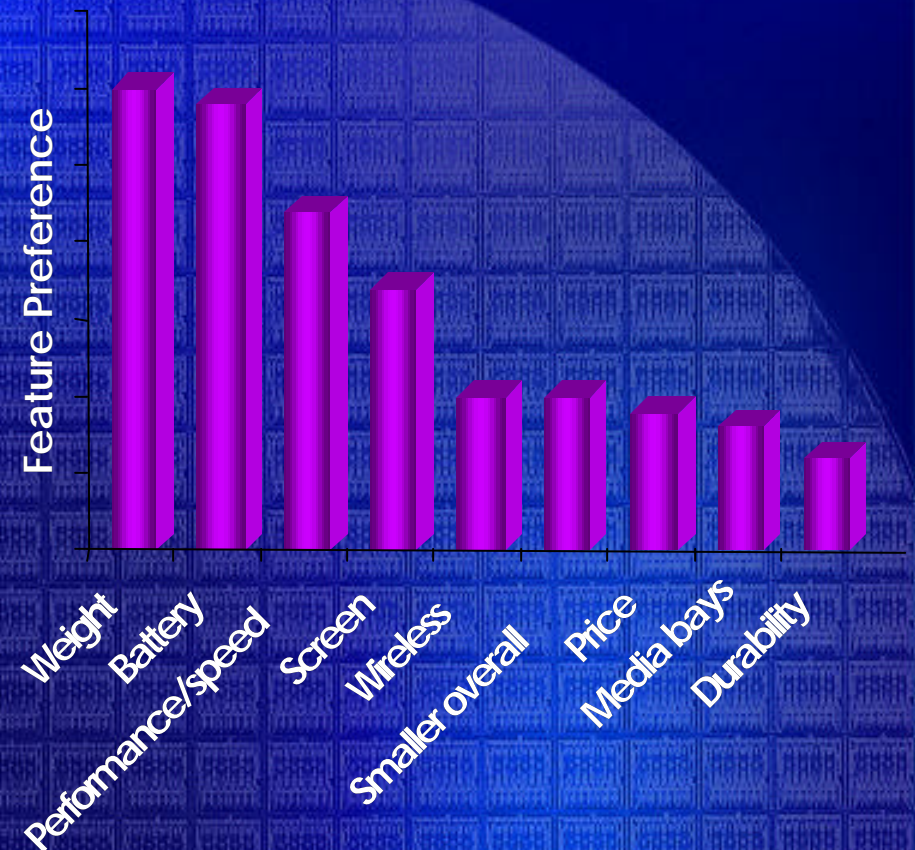
Top Needs for Mobile PCs:

Lighter systems

Longer *Battery* Life

Better *Performance*

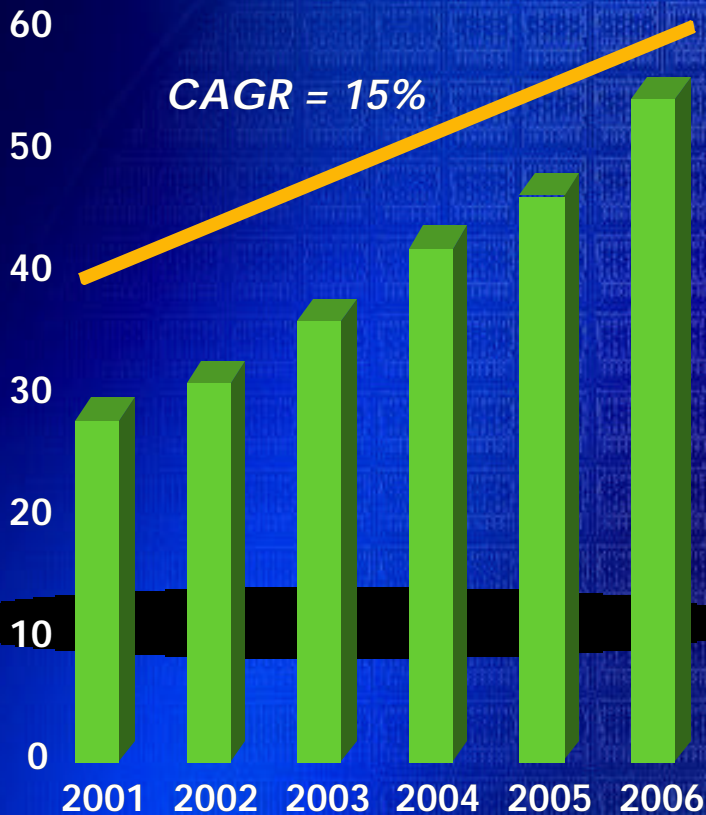
Wireless Connectivity



(Source: Intel survey of 900 notebook users in US, Japan, Germany, UK, Q3'02)

The Growth Trend is Wireless Mobility

Mobile PC
Units (M)



Source: Gartner June '02

90%

60%

30%

0%

*Wireless LAN
attachment
in mobile PCs*

2002

2003

2004

Source: IDC August '02

Intel® Centrino™ Mobile Technology

Delivering on User Needs

BREAKTHROUGH MOBILE PERFORMANCE

- **New Micro-architecture:**
 - Advanced Instruction Prediction
 - New Micro-Operation Fusion
 - 400 MHz PSB & Data Buffering
 - Streaming SIMD Extensions 2
- 1MB power optimized L2 Cache
- Advanced Intel® 855 Chipset Family

ENABLING EXTENDED BATTERY LIFE

- Support for Enhanced Intel® SpeedStep® Technology
- Intel® Mobile Voltage Positioning IV (IMVP IV)
- Power-Optimized Cache and Processor System Bus
- Intelligent Power Distribution

BUILT FOR WIRELESS

- Enable the platform for wireless LAN/WAN/PAN
- 802.11b & a/b* Connectivity
- Low Avg Power Wireless Solution
- Extensive Validation for Wireless LAN compatibility and interoperability

THINNER, LIGHTER DESIGNS

- Low Thermal Design Power
- LV, ULV processors enabling smallest mobile PC designs
- Thin uFCPGA/BGA Mobile Packaging
- Integrated graphics chipset for board space savings



* Availability of Dual Band 802.11a/b to follow Intel® Centrino™ Mobile Technology. See OEM for Details.⁹

Agenda

- Intel® Centrino™ Mobile Technology: Bringing the benefits to mobile PC users
- **Technology features and benefits**
- Positioning and roadmap
- Intel mobile initiatives
- Intel verification and validation
- The business advantage
- Consumer demand on the rise
- Summary



Challenge:

How do you achieve higher mobile PC performance without increasing system power?

New Design Approach:

Maximize performance within a given power envelope

Solution:

The Intel Pentium M Processor Delivers Breakthrough Mobile Performance at Low Power

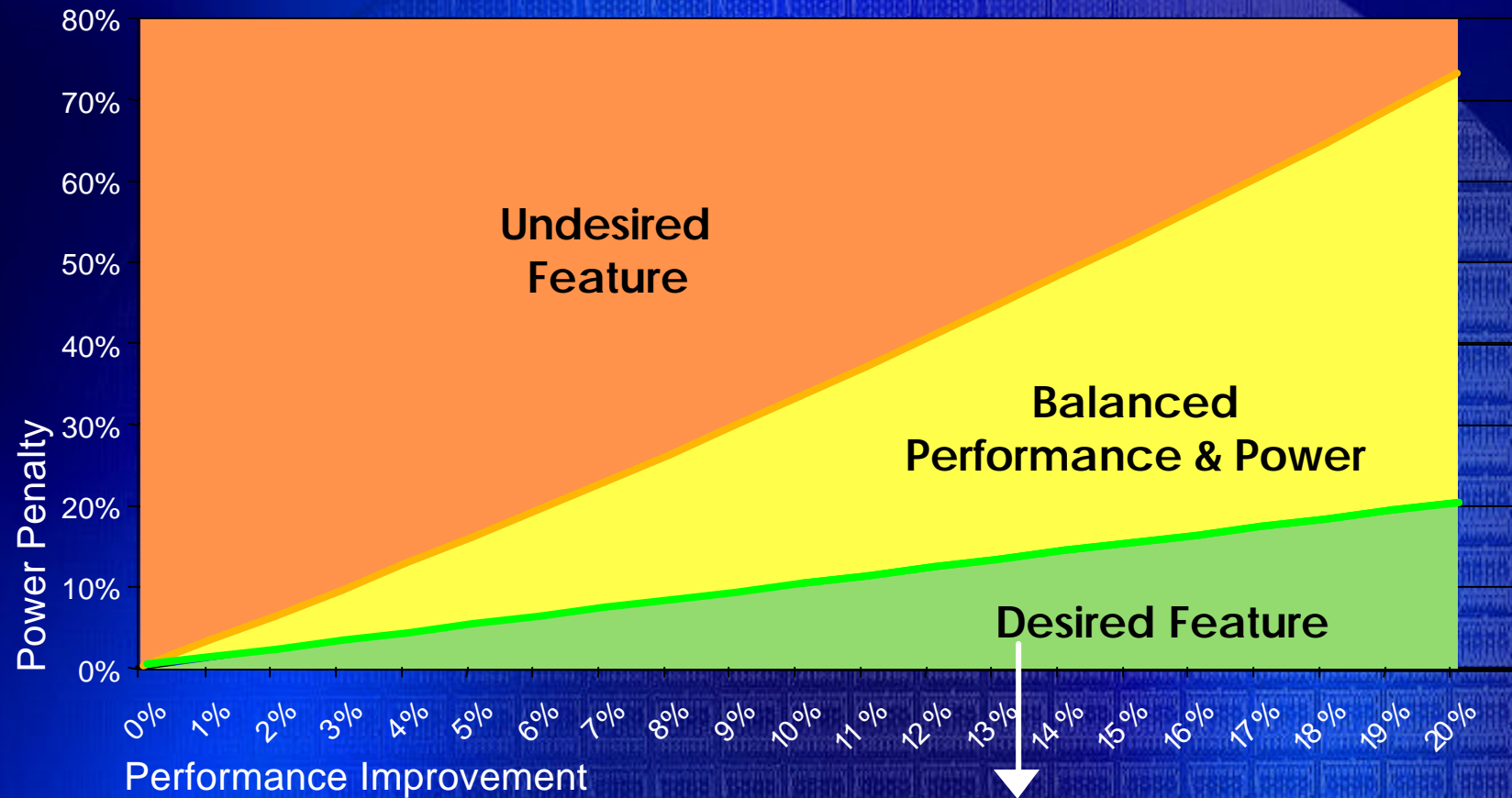


* System performance measured by MobileMark* 2002. System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations.

See http://www.intel.com/products/centrino/more_info for more information.



New Design Approach



New design approach prioritized and evaluated features based on the projected performance/power trade off, optimizing both performance and power as reflected in the green area of the curve



New Micro Architecture

77 Million Transistors

Micro-Ops Fusion

– fuses operations together to enable faster execution of instructions at lower power

Advanced Branch Prediction

– fewer re-dos for increased performance

1MB Power Optimized L2 Cache

– enables higher CPU performance

Streaming SIMD Extensions II

compatible with Pentium® 4 Processor optimized software

Dedicated Stack Management

– faster instruction at lower power levels

Enhanced Intel® SpeedStep® Technology

– Multiple voltages & frequency operating points

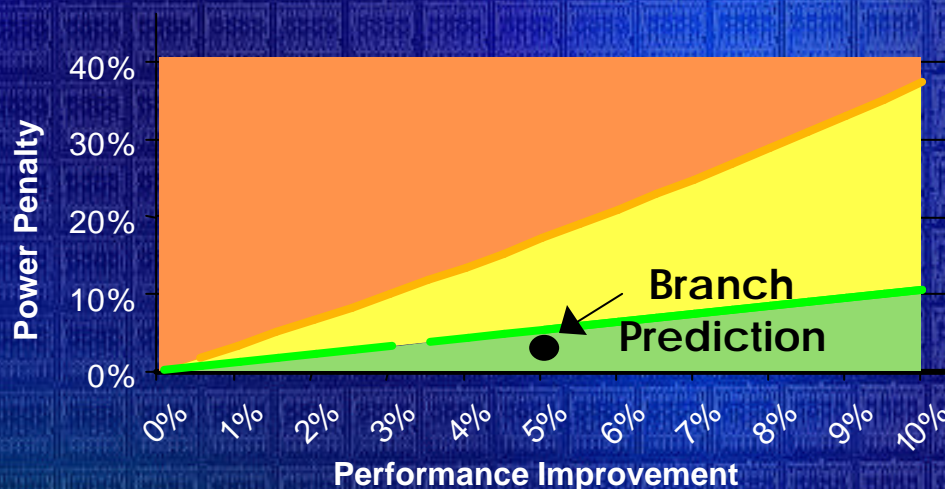
400 MHz Power Optimized System Bus

– faster system bus to enhance performance at lower power levels



Advanced Branch Prediction

- Employs best-in-class branch prediction
- Extends Bi-Modal/Global branch predictor
 - Bimodal: many entries of relatively simple branches
 - Local: complicated branches but still local history
 - Global: complicated branches and global history
- Reduced branch miss-prediction by >20% (based on simulated results)



Intel® Pentium®
M Processor



Advanced Branch Prediction

As an intelligent cab dispatcher analyzes past behavior at the airport, the Pentium M lines up instructions for execution before a program even requests them.



intel®



Micro-Ops Fusion

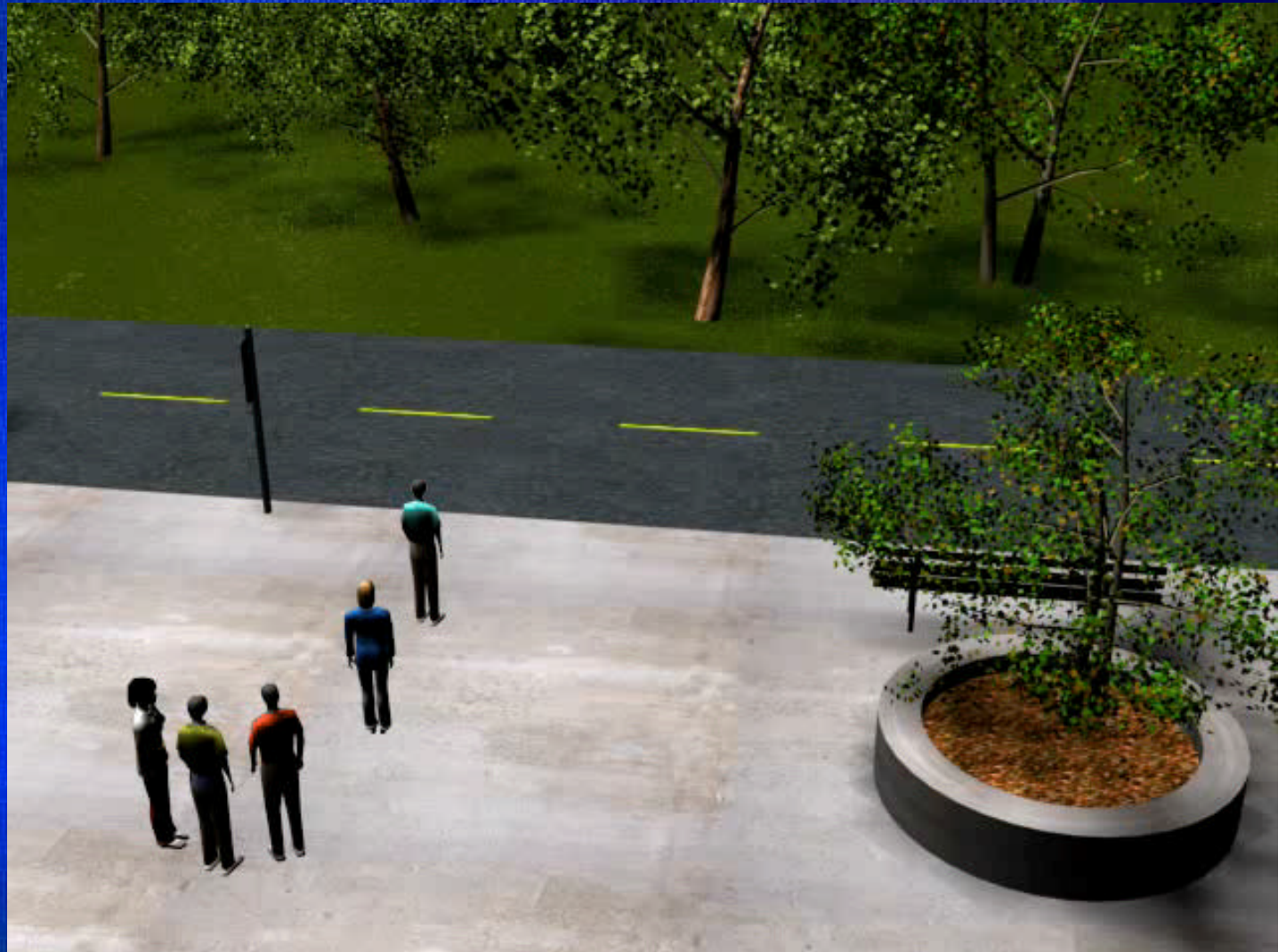
- IA Instructions are typically broken into micro-ops
 - Normally handled individually
- Intel Pentium M processor employs Micro-op fusion
 - Instructions with memory operands are fused
 - Single Micro-op during most of the instruction lifetime
 - Enhanced performance/power characteristics

Intel® Pentium®
M Processor



Micro-Ops Fusion

Similar to sharing
a cab where
multiple riders
can get to a
destination more
efficiently, micro-
ops fusion fuses
together
operations to
more efficiently
execute
instructions



intel®



Dedicated Stack Manager

- IA instruction set provides explicit management of S/W stack
 - E.g. PUSH, POP, RET, CALL
- Stack management operations are an overhead
 - E.g. Stack pointer increment
 - Normally done via machines main execution path
- Employs sophisticated H/W control for stack management
 - Instead of power hungry micro-op control
 - Includes synchronization mechanism

H/W Management Vs. Power Hungry Micro-ops

Intel® Pentium®
M Processor



Dedicated Stack Manager

Similar to the EZ pass on a toll way where riders pass through without stopping to pay the toll, dedicated stack manager uses special hardware to keep track of internal accounting to enable the processor to execute program instructions without interruption

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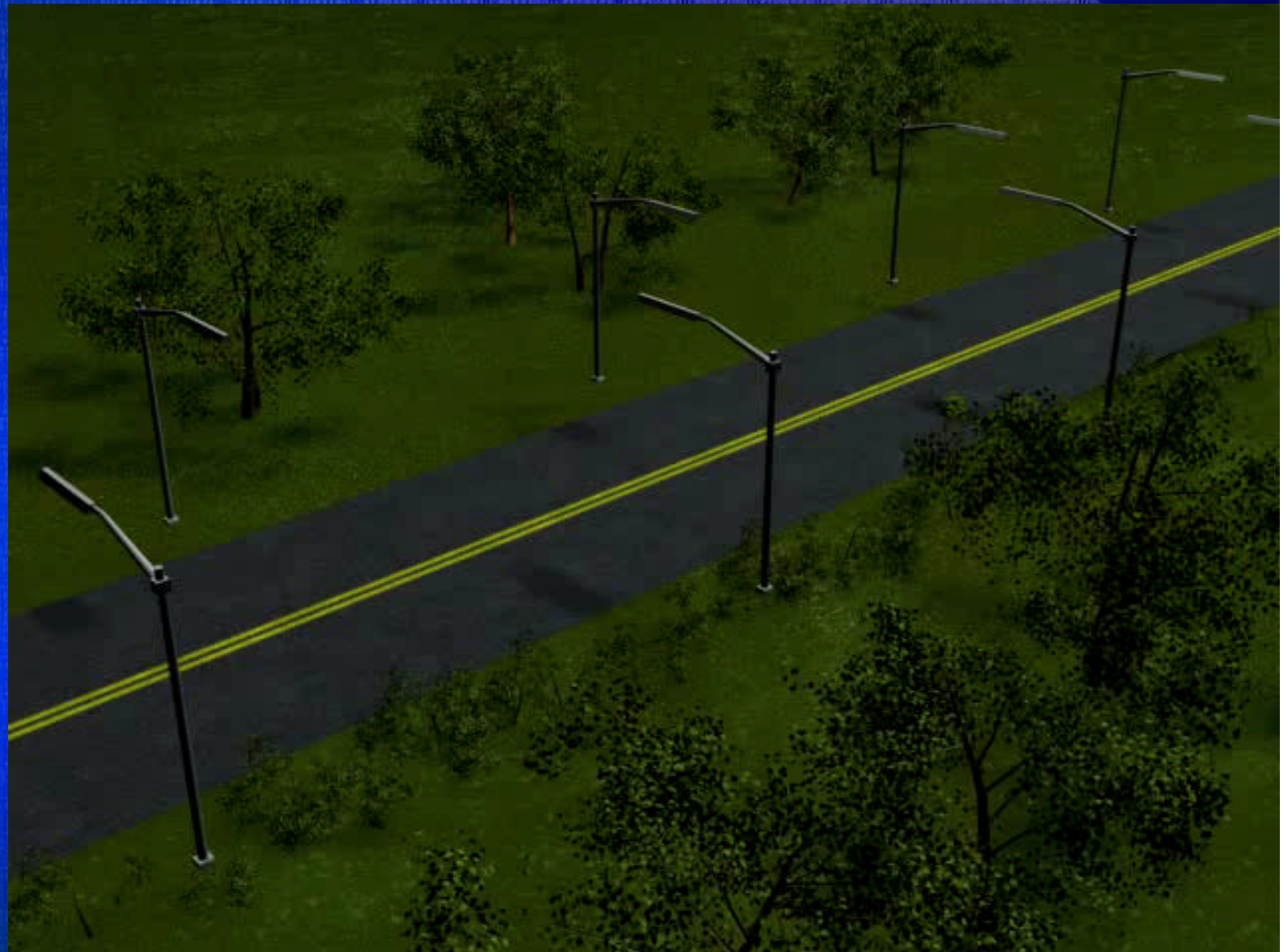


Intel® Pentium®
M Processor



400 MHz Power Optimized Processor System Bus

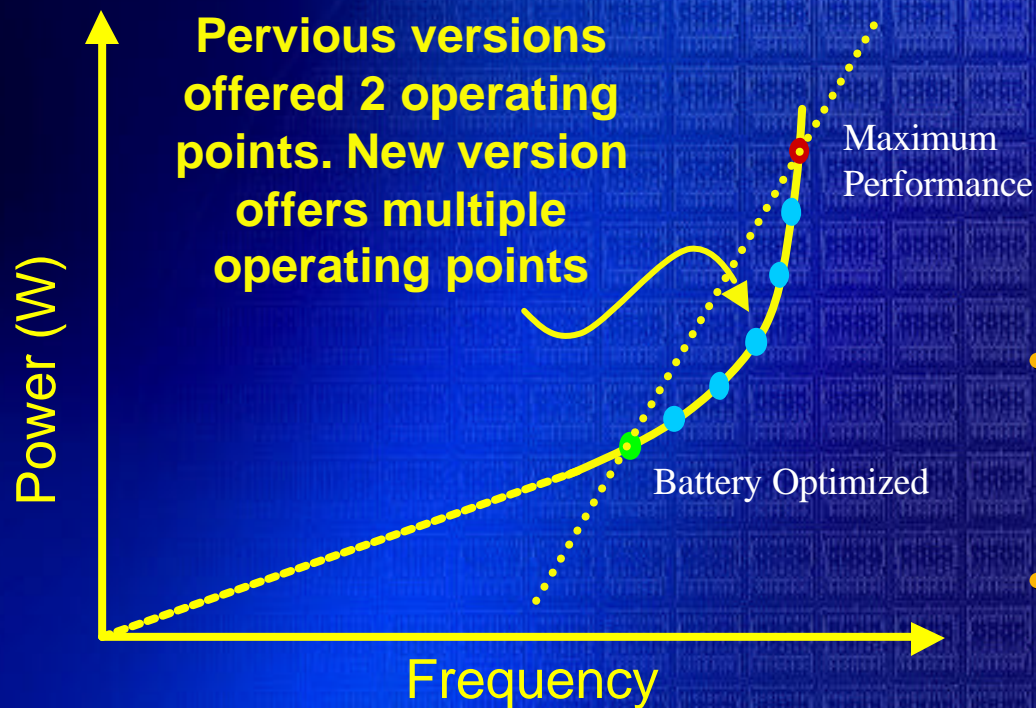
Power optimized processor system bus provides power only where it is needed, similar to illuminating only those sections of the highway actually carrying traffic, thereby saving overall system power



intel®



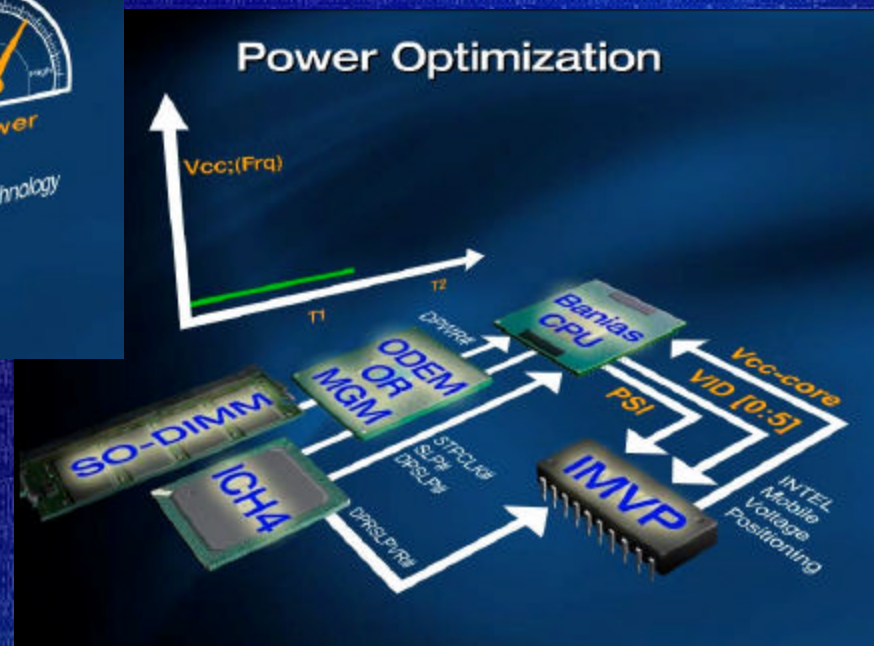
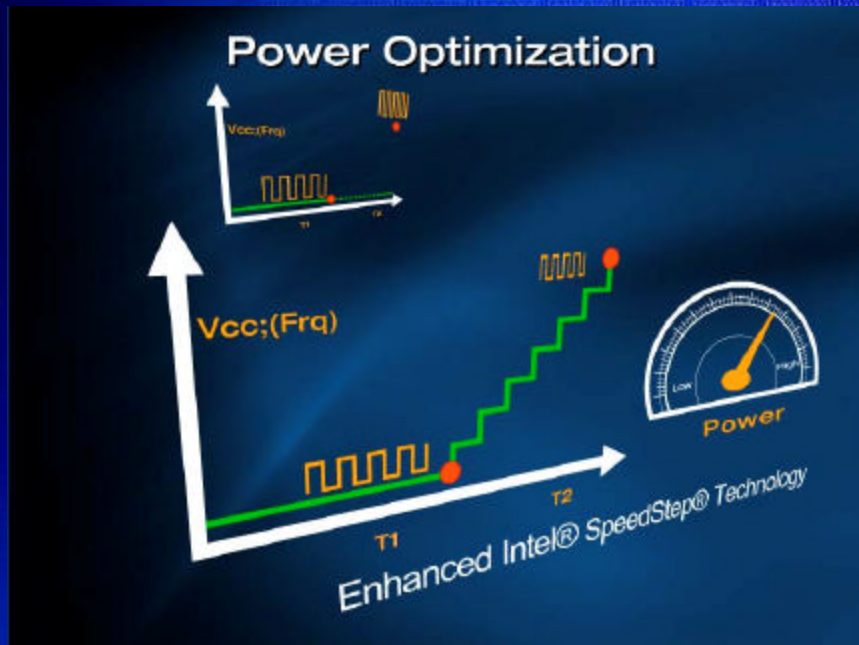
Enhanced Intel® SpeedStep® Technology



- Multiple voltage operating points to better match performance to the application need and optimize battery life
- Managed by the CPU and voltage regulator (IMVP IV)
- Seamless transitions with latency dramatically reduced by sequencing voltage while processor executes



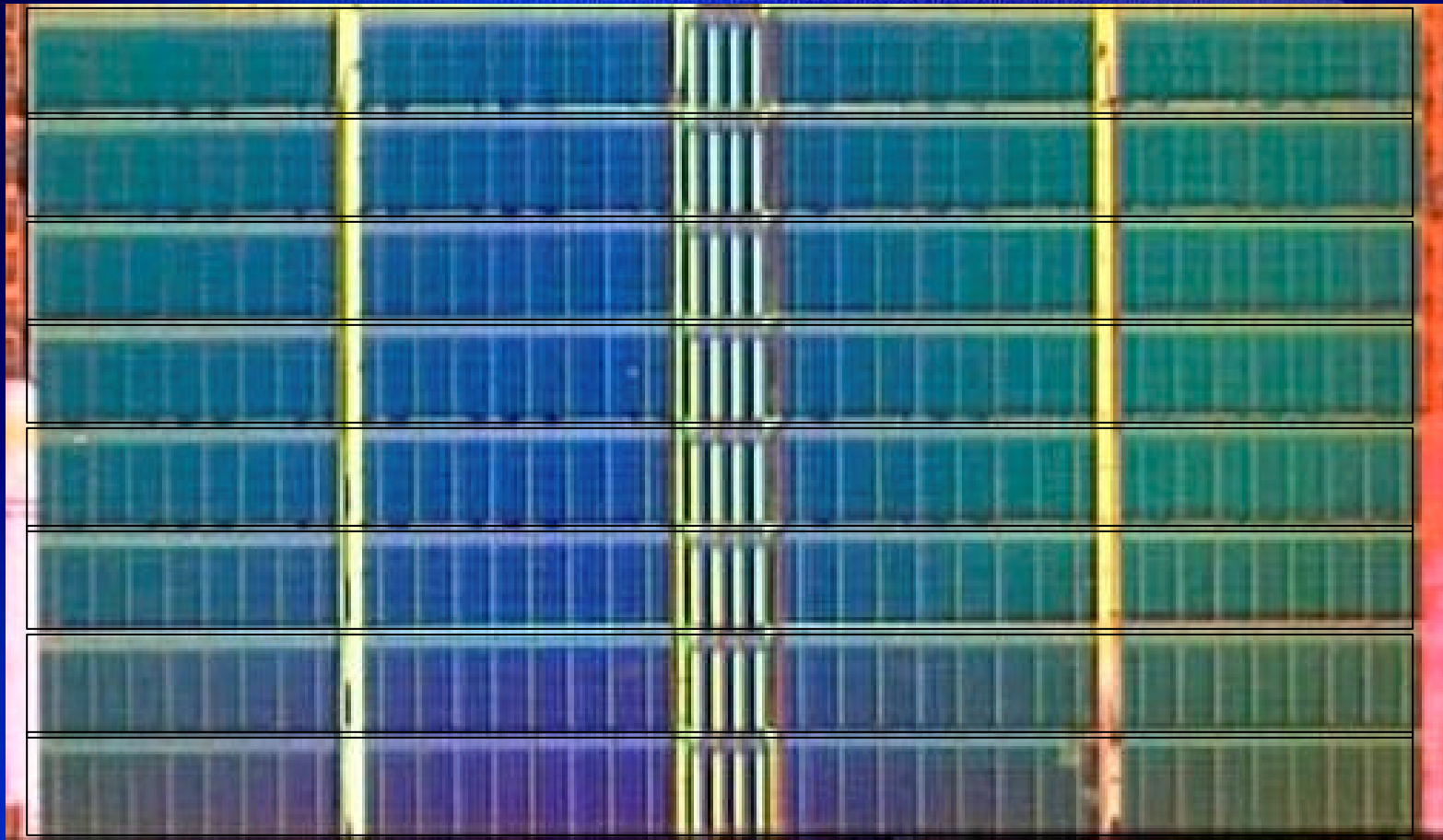
Enhanced Intel® SpeedStep® Technology



Intel® Pentium®
M Processor



Banias L2 Cache



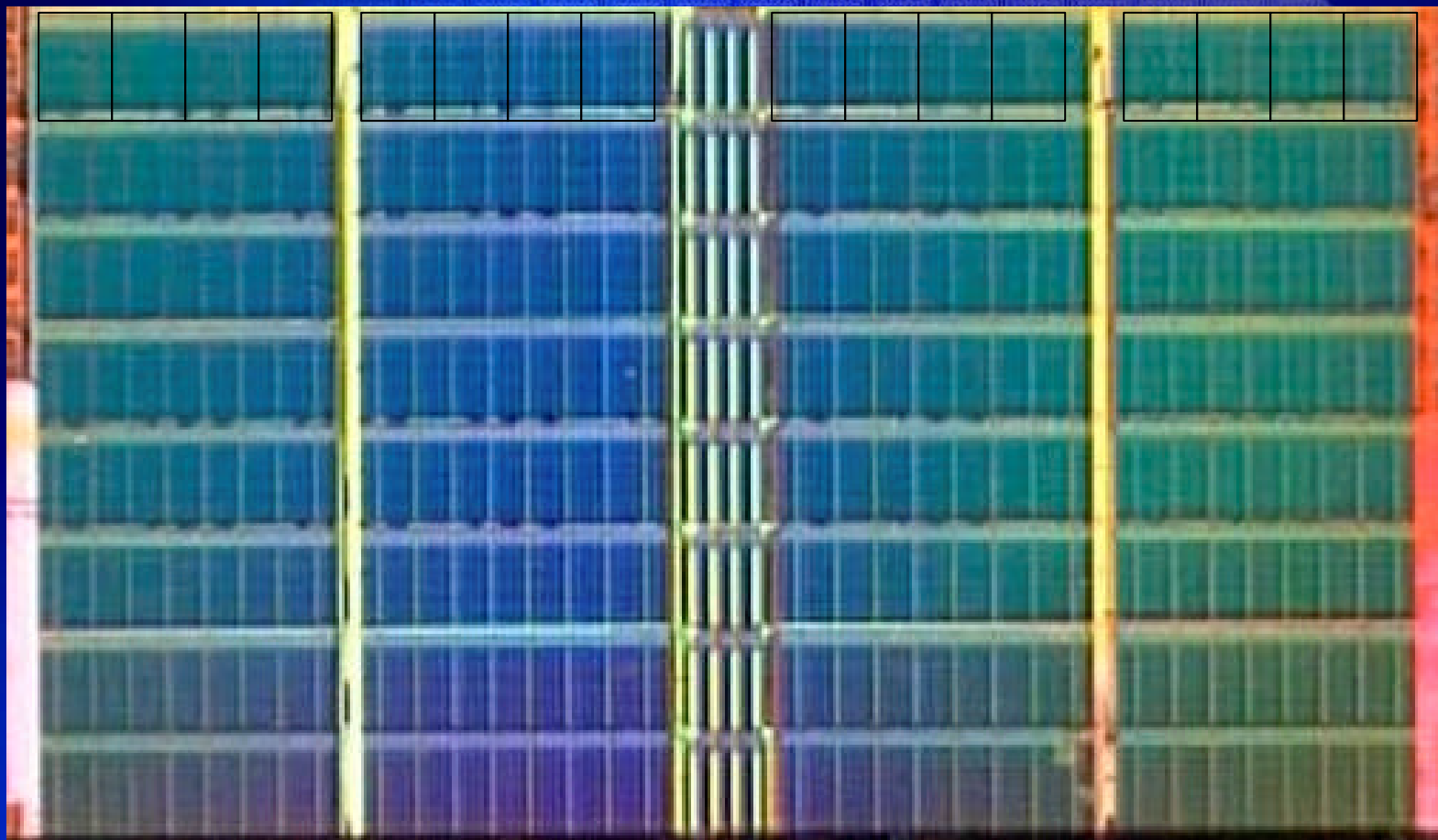
intel®

8 Ways Set Associative

Intel® Pentium®
M Processor



Banias L2 Cache



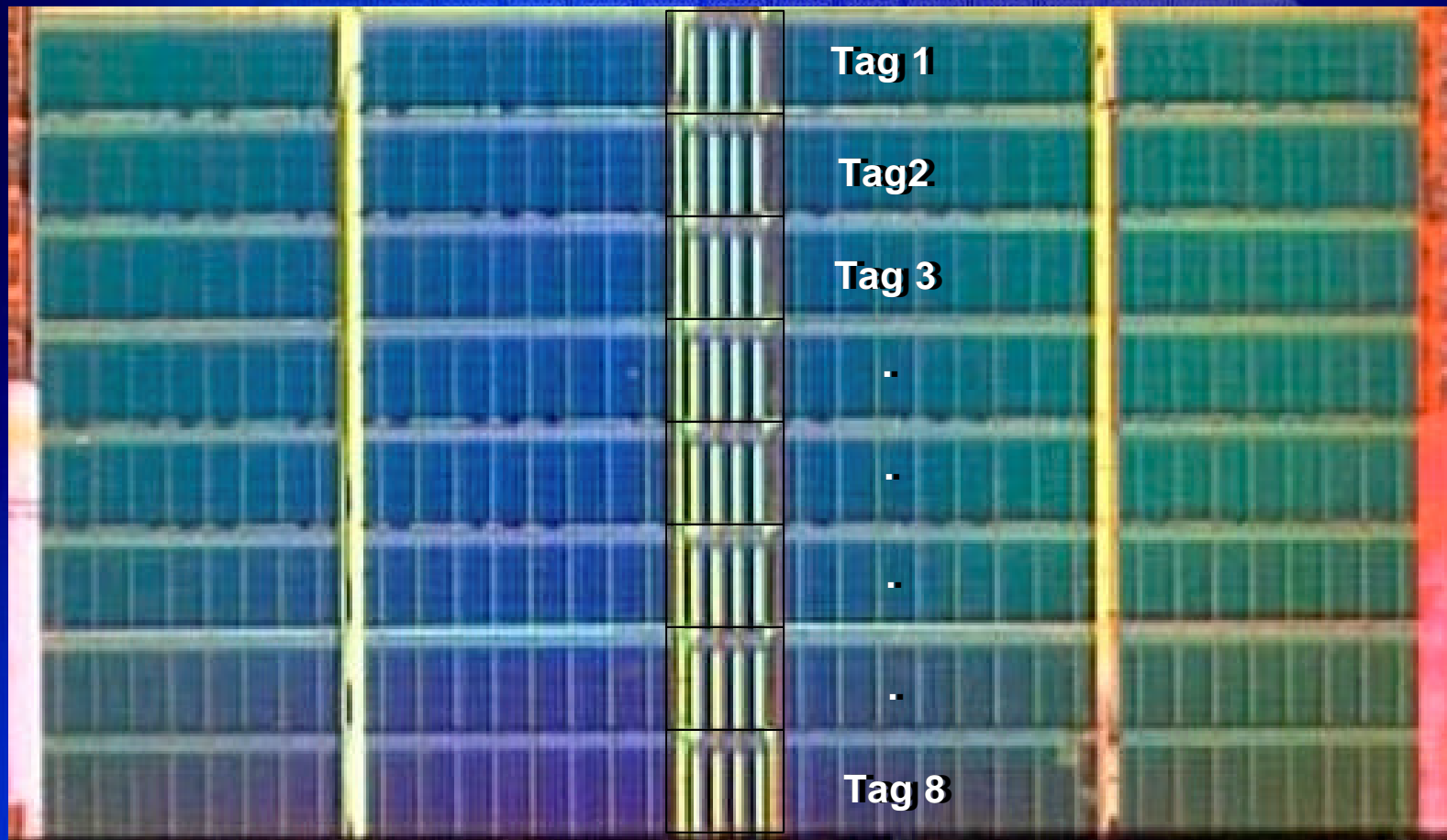
Way 1

intel

4 Quadrants / Way



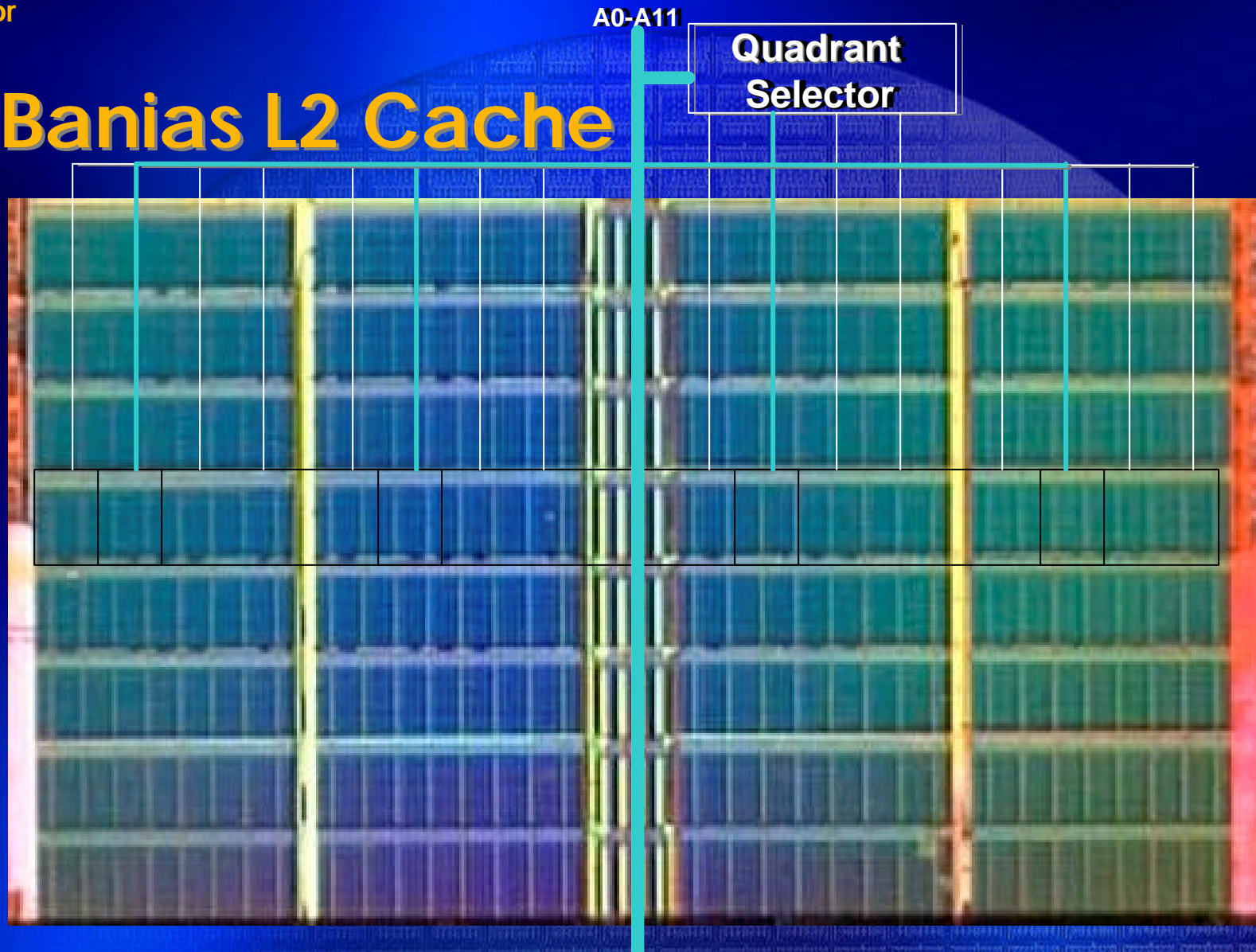
Banias L2 Cache



Intel® Pentium®
M Processor



Banias L2 Cache

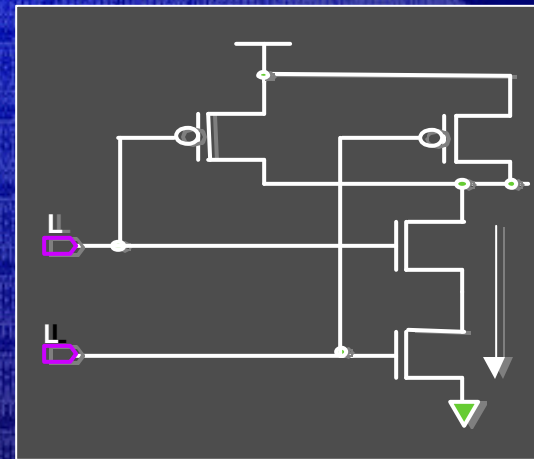


1/32 Cache Selected – Clear Power Savings

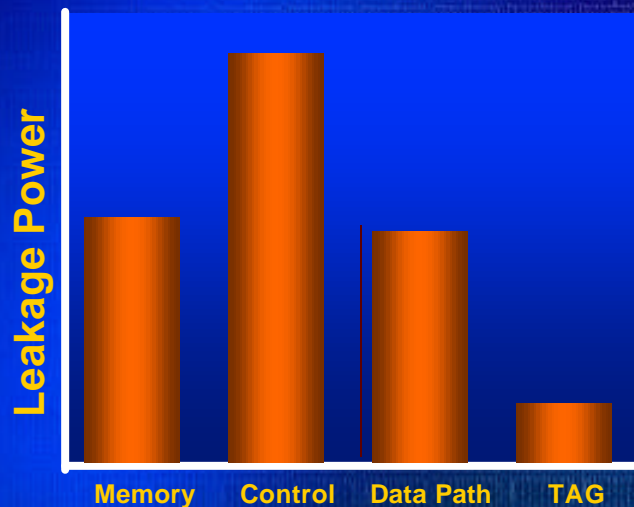


Cache Design - Low Static Power

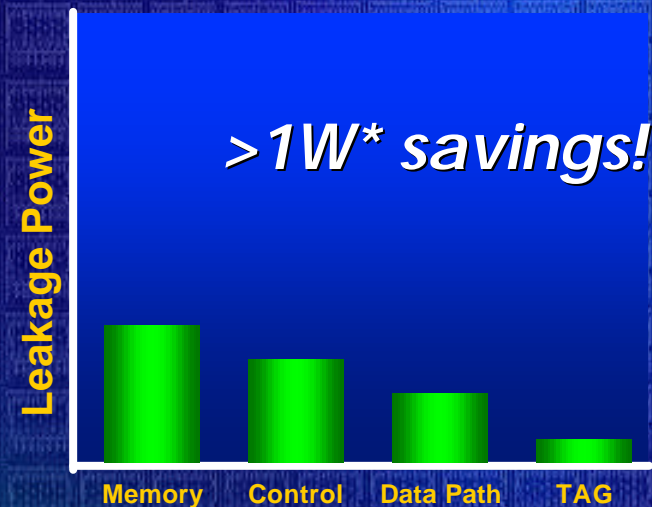
- Maximize the Stacking Factor
- Longer Effective Channel Length



Conventional L2:



Banias L2

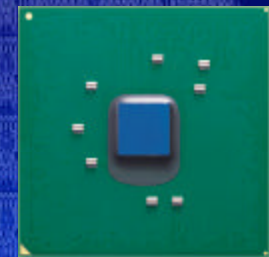


*Savings estimated based on simulation data. Actual results may vary



Intel® 855 Chipset Family

- The Intel® 855PM/GM chipset is designed specifically for Intel® Centrino™ mobile technology and is a mobile optimized memory controller hub with low power design
- Works with the new ICH4-M I/O Controller Hub
- The Intel® 855GM chipset offers a scalable and flexible platform with integrated Intel® Extreme Graphics 2



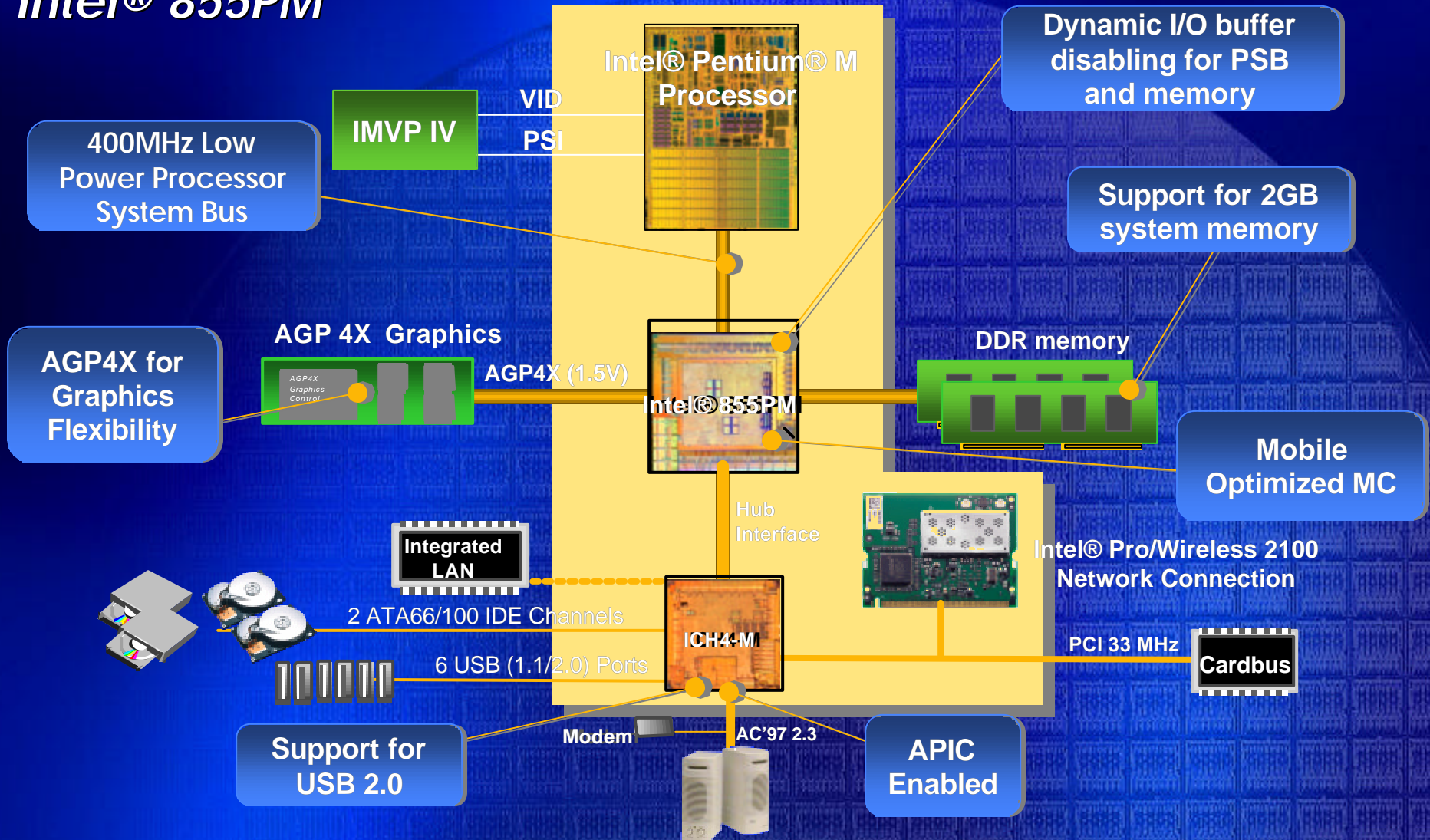
Memory & graphics controller hub



I/O controller hub

Intel® Centrino® Mobile Technology

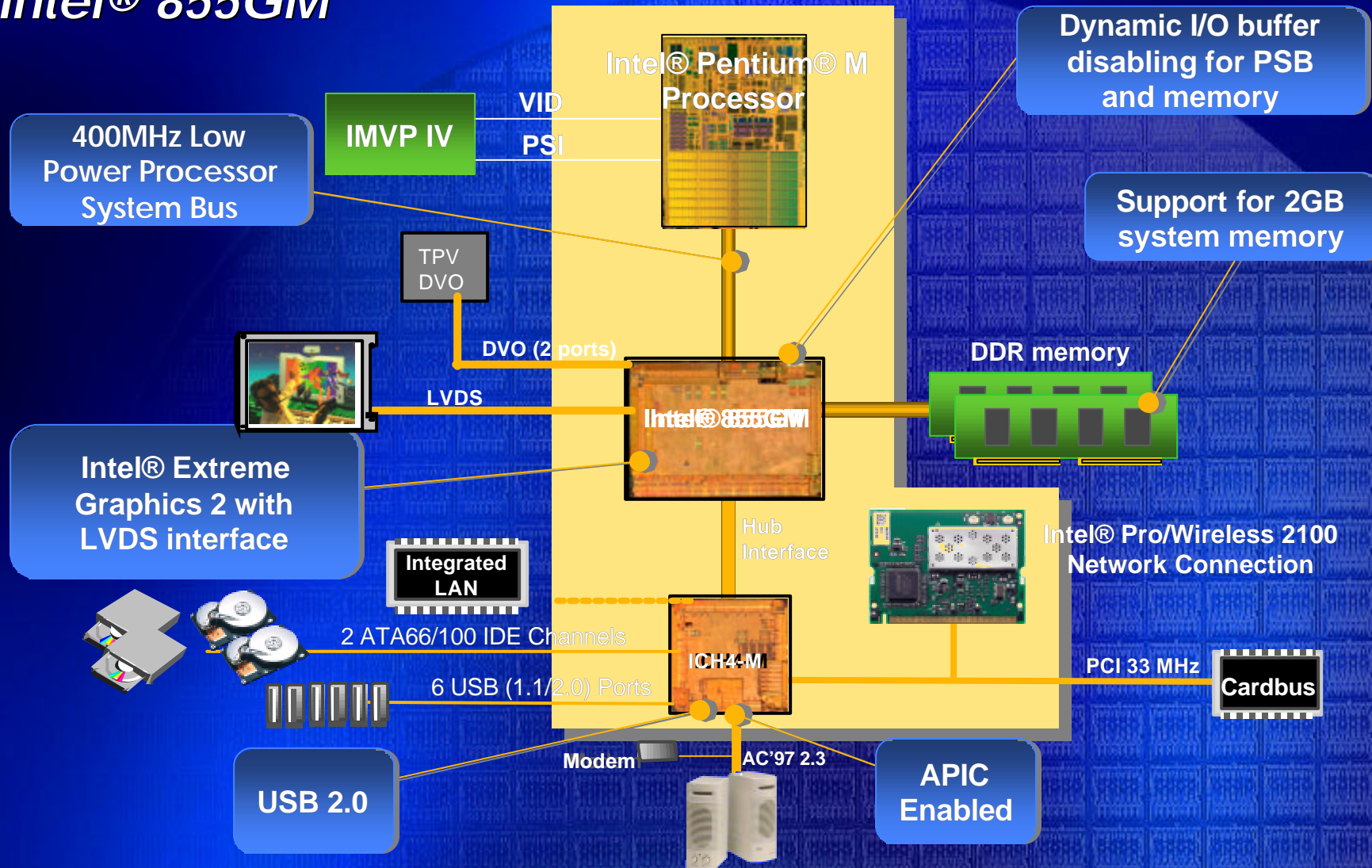
Intel® 855PM



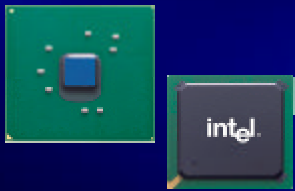
*Silicon Designed and Validated to Work Together
for High Performance at Low Power*

Intel® Centrino® Mobile Technology

Intel® 855GM

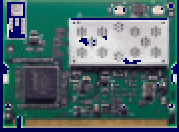


Integrated Graphics with Intel® 855GM, Validated for High Performance with Board Space and Power Savings



Mobile Chipset Comparison

	2002		2003		
Platform	Intel 830 Family	Intel 845MP	Intel 855PM	Intel 855GM	
PSB Frequency	133MHz	400MHz	400MHz	400MHz	
Memory	1 GB PC133	1GB DDR 200/266	2GB DDR 266/200	2GB DDR 266/200	2x More Memory
Graphics	Integrated Gfx AGP 4X port	AGP 4x	AGP 4X	Integrated 3D/2D Gfx	
Gfx Core Freq.	166 MHz	NA	NA	200MHz	1.8x Higher 3D Perf
Dual Independent Display	YES	NA	NO	YES	
Rotation Support	YES	NA	NA	YES	
Intel® Stable Image Technology	NO	NO	YES	YES	Increased Stability
Estimated Power Targets	Avg < 2W	Avg < 2.2W	Target Avg < 1W	Target Avg < 2W	Lower Power
			1/2 Power of 845	Lower Power than 830M w/More Perf	

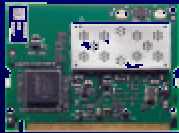


Wireless Connectivity

Increases the Importance
of Performance, Battery
Life and System Design

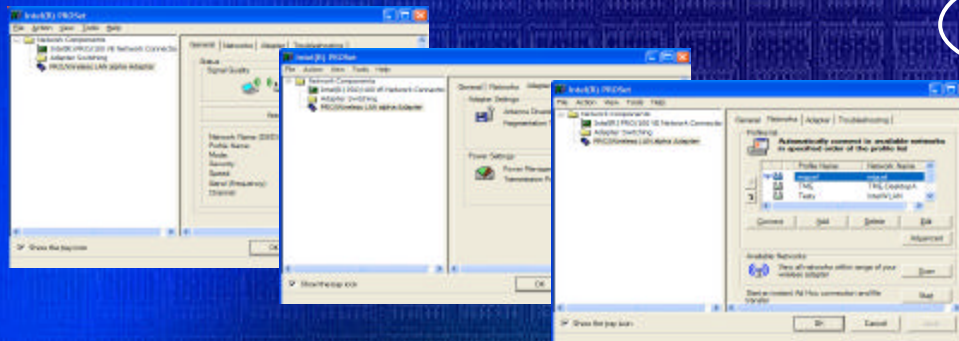


**Wireless connectivity and some features may require you to purchase additional software, services or external hardware. Availability of public wireless LAN access points limited.*



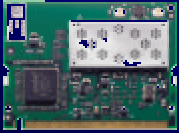
Integrated Wireless LAN

- Wi-Fi compliant 802.11b single band and 802.11a/b dual band support*
- Industry standard and extended wireless security support to enable enhanced network security support compliant with evolving standards (LEAP*, 802.1x, WEP, TKIP – at launch; CKIP, WPA – future support)
- Intel® PROSet software (user interface)
 - **Advanced profile management**
 - **Automatic WLAN switching**
 - **Ad hoc connection wizard support**



*Other names and brands may be claimed as the property of others

* Availability of Dual Band 802.11a/b to follow Intel® Centrino™ Mobile Technology. See OEM for Details. 33



Integrated Wireless LAN

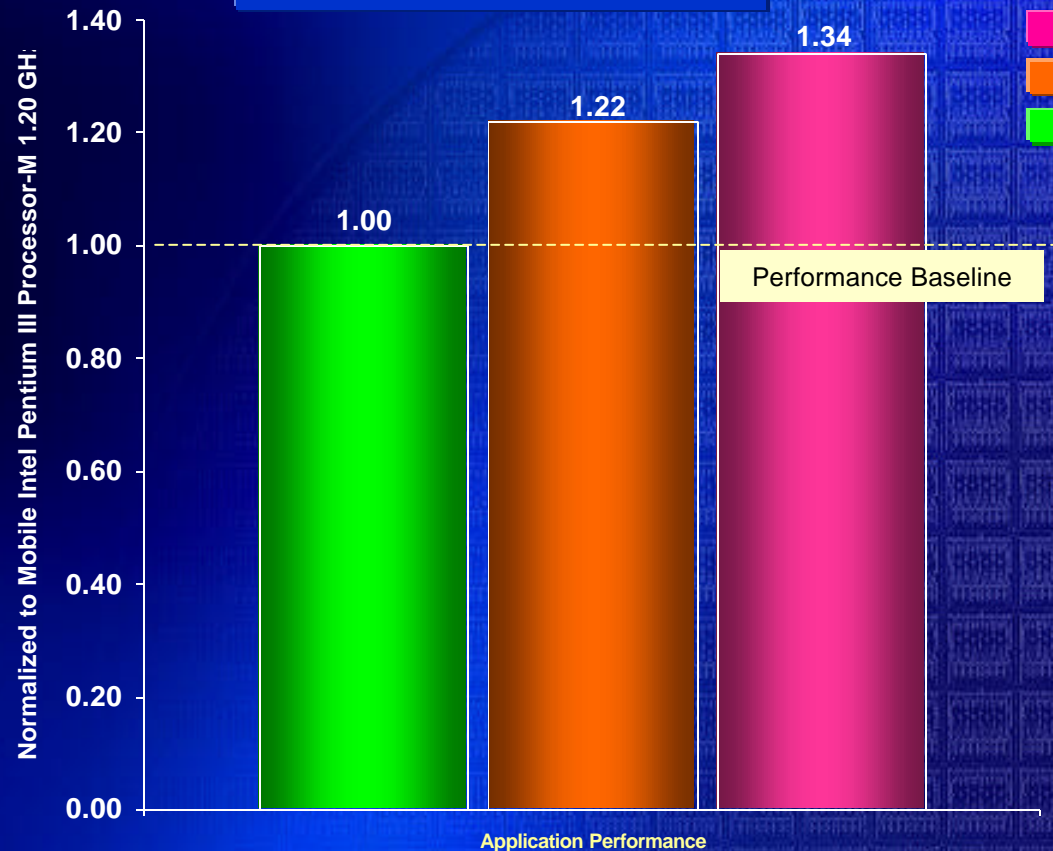
- **Antenna diversity**
Real time antenna selection to optimize the performance. Selection based on best signal to noise (s/n) ratio.
- **Power saving protocol (PSP)**
Five different power settings to allow users to trade off performance vs. battery life
- **Intel® intelligent scanning technology**
Reduces power by controlling the frequency of scanning for access points thereby saving on battery life



Performance and Battery Life

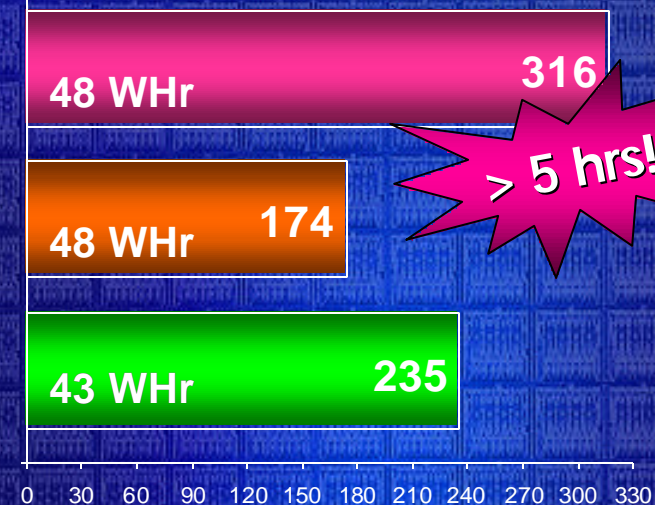


Relative Performance



- Intel® Pentium® M Processor 1.60 GHz
- Mobile Intel® Pentium® 4 Processor-M 2.40 GHz
- Mobile Intel® Pentium® III Processor-M 1.20 GHz

Battery Life (minutes)



Intel® Pentium® M Processor based systems for a breakthrough mobile experience¹

Configurations and Disclaimers

Source: Intel. Configuration: Intel® Pentium® M Processor 1.60 GHz, Intel 855PM chipset, 512MB PC2100 DDR266, ATI® Mobility® 7500, Battery Capacity 48WHr; 14.1" TFT 1024x768. **Mobile Intel® Pentium® 4 Processor-M, 2.40 GHz** Intel 845MP chipset, 512MB PC2100 DDR266, ATI® Mobility® 7500, Battery Capacity 48WHr; 14.1" TFT 1024x768. **Mobile Intel® Pentium® III Processor-M 1.20 GHz** Intel 830M chipset, 512MB PC133 SDRAM, S3® SuperSavage® IXC 1014, Battery Capacity: 43WHr; 14.1" TFT 1024x768. All Platforms: 40GB hard drive 5400 rpm, 1024x768x32bit color, FAT32 File System. Windows® XP® Professional.

¹ System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations. See http://www.intel.com/products/centrino/more_info for more information.

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- Intel® Centrino™ Mobile Technology: Bringing the benefits to mobile PC users
- Technology features and benefits
- **Positioning and roadmap**
- Intel mobile initiatives
- Intel verification and validation
- The business advantage
- Consumer demand on the rise
- Summary

Notebook PC Brand Hierarchy

End User Value

*Mobile
Technology
Brand*

**Intel® Centrino™ Mobile
Technology**

Intel's Premier Mobile
Technology Brand



Best

*Performance
CPU Brand*

Pentium®

Intel's Premier CPU Brand

Better

*Value
CPU Brand*

Celeron®

Intel's Value CPU Brand

Good

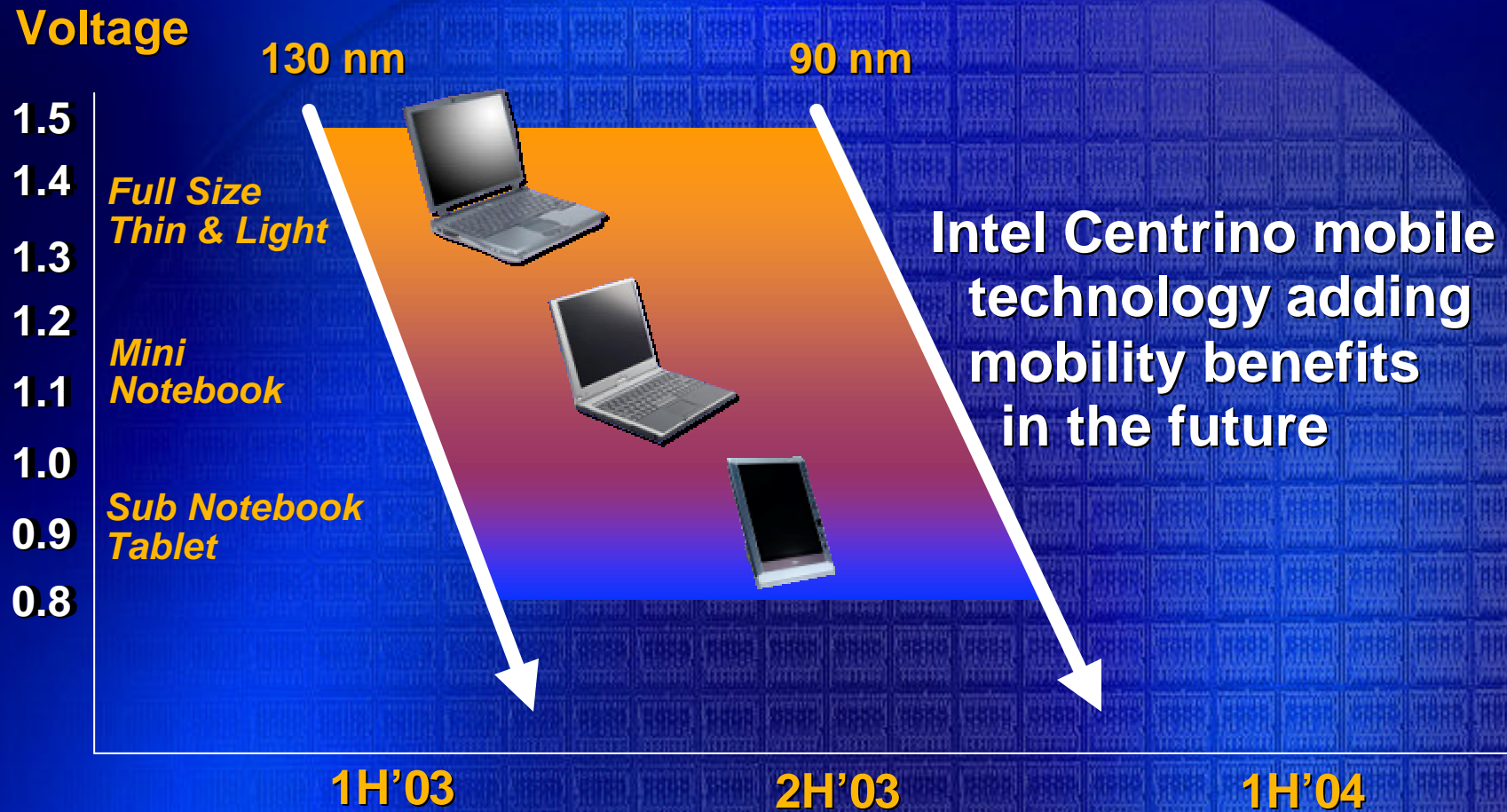


Designs – Today and Tomorrow



A Family of Products for All Mobile PC Designs

Intel® Centrino™ Mobile Technology Roadmap



**Convergence of Computing & Communication
With Intel® Centrino™ Mobile Technology**



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Intel's Mobility Enabling Initiatives

- Extended Battery Life Working Group
 - Address 8-hour battery life goal
 - Enable key technologies for: Displays, Batteries, Fuel Cells, Power conversion
- Innovative Alliance Group
 - Accelerate innovation & drive industry involvement
 - Deliver platform guidelines annually
- Platform Vision Guide
 - Outlines the recommended specifications for the platform to be used by the Innovative Alliance Group
- Intel Capital Investment
 - \$150 Million in wireless infrastructure

Agenda

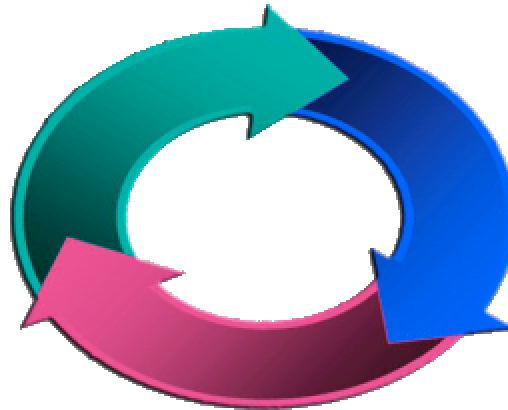
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Intel® Centrino™ Mobile Technology

Verification, Validation, Acceleration

P New Levels of Validation

Ensuring the features of Intel's components, platforms and software comply with Intel and industry specifications and meet market expectations



R Verification with Leading Providers

Addressing connectivity and usability to enable a great end-user experience

R Accelerate Ecosystem

Working with service providers & locations to hasten deployment. Intel Capital investing to accelerate development of mobile technologies

Intel® Centrino™ mobile technology will bring the freedom and flexibility of being unwired



Standard Platform Validation

Performance &
Stability Utilities



Stable Image Technology

Software
Drivers

Intel & TPV

Drivers

Display

LAN

Audio

Storage

Graphics

Optimized S/W

- ISA Optimizations
- Mobility Aware
- Power Friendly

Silicon



New Levels of Validation for Intel® Centrino™ Mobile Technology

Performance &
Stability Utilities



Stable Image Technology
Single Driver Technology

**Additional
Software
Drivers
TPV Solutions**
*WLAN
PAN/WAN
Single PROset driver
for Wired & Wireless*

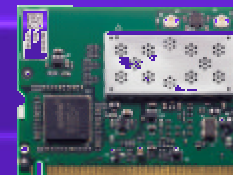
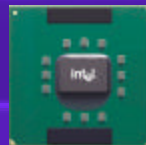
Intel & TPV
Drivers
Display
LAN
Audio
Storage
Graphics

Optimized S/W
• ISA
Optimizations
• Mobility Aware
• Power Friendly

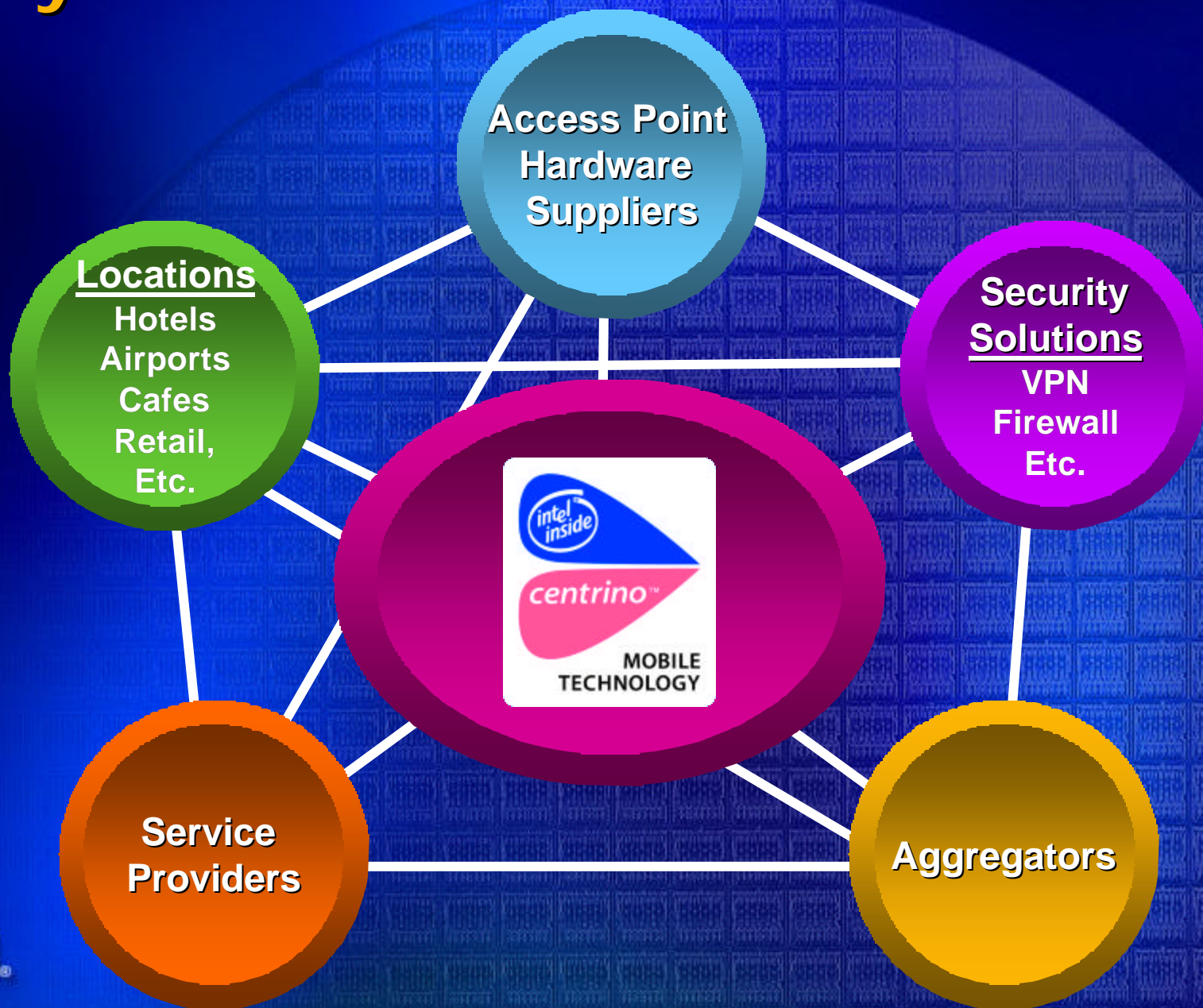
Security
• Standards
Based
• Third Party
• TPM

TPV H/W
• Bluetooth®
wireless
coexistence
• WWAN Card

Silicon



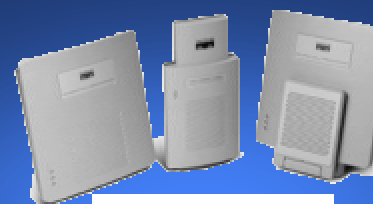
Ecosystem Verification Overview



Intel & Cisco Collaboration



OEM notebooks
with Intel® Centrino™
mobile technology



Cisco Aironet Wireless
Infrastructure

**Delivers the leading mobility solution for the
enterprise**

- Best-in-class Security
- Validated Compatibility
- Mobile Optimized
- WLAN Industry Leaders



Intel: Accelerating Hotspot Deployment

- World-wide program to promote the deployment and awareness of public WLAN services
 - Initially focused on business users and the locations they frequent
- Service Provider Testing program with Intel® Centrino™ mobile technology based platforms to
 - Verify compatibility
 - Drive issue resolution
 - Enable great end-user experience



Hotels



Airports

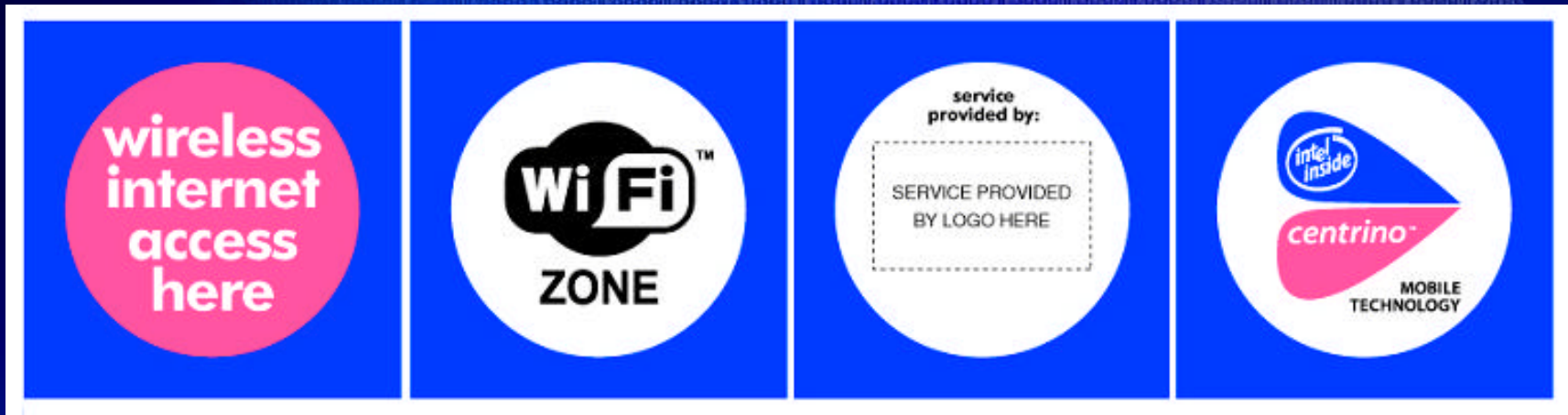


Cafés
Retail



“Watch this space” - More announcements coming through launch and beyond

Where's the Hotspot?



Intel building awareness of public hotspots worldwide in association with Intel® Centrino™ mobile technology

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The Business Advantage

Mobile Usage Models

Office Warrior

- keep all applications running moving from meeting to meeting
- integrated WLAN & hot spots keep you connected throughout the corporate campus



Road Warrior

- extended battery life allow the road warrior to work for hours
- get mileage out of mobile multi-tasking



Telecommuter

- inspires productivity and efficiency
- connect to the corporate network & head to the office without leaving the house



Commuter

- remaining productive when off-line helps keep the workload on track
- take advantage of immediate synchronization and data transfers



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The Business Advantage:

Intel® Centrino™ Technology Reduces TCO

TCO Element	TCO Reduction
Technical Support	<ul style="list-style-type: none">• Fewer calls due to increased interoperability with major wireless access providers• Compatibility with leading access point products for easy connectivity at public/private hotspots
Deployment	<ul style="list-style-type: none">• Faster and easier due to Integrated WLAN• Common WLAN/LAN software driver set simplifies configuration & qualification
End User Operations	<ul style="list-style-type: none">• Reduced downtime due to stable platform and Integrated WLAN• Outstanding mobile performance with headroom to scale and maximize useful life
Reduced Capital & Qualification Costs	<ul style="list-style-type: none">• Reduced capital costs by <u>investing in integrated WLAN now instead of later</u>. Gartner advises, "Over the lifetime of a notebook, there could be a <u>\$150 to \$200 per unit savings</u>"*• High performance and stable platform means less notebook turnover• Intel® Stable Image Technology means fewer re-qualifications



The Business Advantage:

Analyst Productivity Proof Points



Battery
Life

Performance

Form Factor

Connectivity

“We concluded that Intel’s Centrino mobile technology offers clear value to commercial organizations.

The modeling exercise indicated that the value of **increased productivity for a mobile professional could be almost \$500 per month.**”

IDC: “Untethered Computing: Feasible, Economic, and Desirable” Jan.2003



Agenda

- Intel® Centrino™ Mobile Technology: Bringing the benefits to mobile PC users
- Technology features and benefits
- Positioning and roadmap
- Intel mobile initiatives
- Intel verification and validation
- The business advantage
- Consumer demand on the rise
- Summary

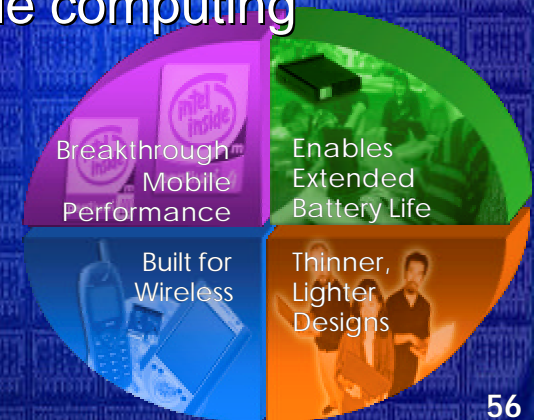
Consumer Demand Increases with Wireless Hotspot Growth

- **More places**
 - Public wireless hotspots worldwide expected to increase from 15k to >300k by 2006 (TeleAnalytics 2002)
- **More people**
 - Frequent public WLAN users worldwide expected to increase to 31 million by 2007 (Gartner 08 '02)
- **More PCs**
 - By 2003, more than 30% of mobile PCs sold worldwide will include integrated wireless — with millions more offering wireless cards (Intel estimate)
- **More fun**
 - Send e-mails. Listen to music. Create digital photo albums. Make your own movies. Play games. Shop online. Study.



Summary

- Intel® Centrino™ mobile technology is Intel's best mobile technology for notebook computers
- Intel® Centrino™ mobile technology represents a combination of technologies including the Pentium® M processor, the Intel® 855 chipset family, and integrated 802.11 (Wi-Fi) Intel® PRO/Wireless network connection
- Centrino™ mobile technology is based on a new mobile processor architecture, designed specifically for mobile to provide breakthrough mobile performance, integrated wireless LAN capability, enable extended battery life, and thinner, lighter designs
- Centrino™ mobile technology components are designed, optimized and validated by Intel to maximize the wireless mobile computing experience





Important Information:

**Wireless connectivity and some features may require you to purchase additional software, services or external hardware. Availability of public wireless LAN access points limited. System performance measured by MobileMark* 2002. System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations. See http://www.intel.com/products/centrino/more_info for more information. Availability of Dual Band 802.11a/b to follow Intel® Centrino™ Mobile Technology. See OEM for Details.*

 **Other names and brands may be claimed as the property of others.*

New Intel® Pentium® M Micro-Architecture:

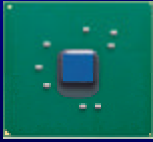
Optimized for Performance and Power

- Advanced Branch Prediction:
 - A new implementation technique that includes the use of multiple branch predictors that have never before been used together in a micro-architecture. The branch predictor helps to reduce overall latency in the system contributing to higher performance at lower power.
- Micro-Op Fusion:
 - A technique that combines two micro-operations into one, enabling it to execute faster and at lower power. This technique provides higher processor performance at lower power.
- 400MHz Power Optimized Processor System Bus:
 - Aggressively powers down portions of the bus which are not being used and operates at a lower voltage when operating to reduce the power consumption
- Dedicated Stack Manager:
 - Hardware dedicated to managing the stack pointer, which significantly reduces the number of micro-operations required for the “overhead” of stack management inside the processor.. The dedicated stack manager reduces the overall number of micro-operations required to generate higher performance at lower power.



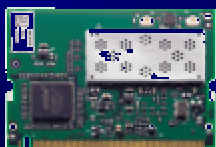
Feature / Benefit Summary

<u>Feature</u>	<u>Benefit</u>
Pentium® M Microarchitecture 400 MHz PSB, Micro-ops Fusion, Dedicated Stack Manager , Advanced Instruction Prediction, & Second- generation streaming SIMD extensions	Faster execution of instructions at lower power with fewer re-dos for increased performance and SSE II for compatibility with Pentium® 4 optimized software.
1MB power managed L2 cache	Higher CPU Performance with power management
Support for Enhanced Intel SpeedStep® technology w/ multiple voltage & frequency operating points	Better match of performance to the demanded application requirement
Power-optimized logic design enabling new low voltage capabilities and intelligent power distribution	New power-efficient transistor technology optimizes power consumption/dissipation for lower CPU average power & focuses system power where CPU needs it, shutting down anything not being used
Intel Mobile Voltage Positioning IV	Dynamically lowers voltage based on processor activity to lower thermal design power enabling smaller notebooks
Micro FCBGA & FCPGA Packaging	Optimized for a range of thinner, lighter designs <1" thick that deliver outstanding performance



Feature / Benefit Summary

<u>Feature</u>	<u>Benefit</u>
Support for up to 2GB of DDR 266/200 memory	Higher performance & flexibility
USB 2.0 support	Support for USB 2.0 peripherals for 40X faster execution and is backward compatible to support USB 1.0 devices
Optional integrated graphics solution w/ Intel® Extreme Graphics 2 technology	Delivers intense, realistic 3D graphics with sharp images and enables balanced memory usage between graphics and system for optimal performance
Intel® Stable Image Technology	Enables chipset HW changes, minimizing impact to IT SW image stability. Additionally Intel® 855GM supports unified graphics driver which reduces TCO by converging to one driver for multiple clients
Dynamic input/output buffer disabling for processor system bus & memory	CPU and/or memory activation/power-down as needed for lower chipset power consumption
Intel® 855GM chipset has integrated low voltage differential signal (LVDS) interface	Higher integration consumes less motherboard space, allowing smaller notebook designs
Optimized internal clock gating for 3D & display engines with Intel® 855GM	Lowers chipset power by clocking 3D & display engines only when needed



Feature / Benefit Summary

<u>Feature</u>	<u>Benefit</u>
802.11b and later in 2003 802.11a/b dual band support	Ability to connect to 802.11b & later 802.11a/b networks, Wi-Fi compliant
Industry standard and extended wireless security support (LEAP, WPA (SSN)3, 802.1x, WEP)	Enables enhanced wireless networking security in compliance w/ evolving industry standards
Intel® PROSet with advanced profile management support	Allows setup of an unlimited number of profiles to connect to different WLAN networks
Intel® PROSet with automatic WLAN switching support	Enables automatic switching between wired & wireless LAN, will also manage VPN connections
Intel® Wireless Coexistence System 4	Enables reduced interference between 802.11b & Bluetooth* devices
Power Save Protocol (PSP)	Five different power settings allow users to trade off performance versus battery life
Antenna diversity	Real-time antenna selection optimizes WLAN performance
Real-time temperature calibration will be available with 802.11a	Dynamically optimizes wireless performance by adjusting output power to temperature changes for increased throughput & range with 802.11a
Intel® Intelligent Scanning Frequency	Reduces power by controlling the frequency of scanning for access points
Intel® PROSet with ad hoc connection wizard support ¹	Provides a simple interface for setting up ad hoc networks